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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/099,969

03/19/2002

Emmanuel Duret

612.41302X00

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11/03/2005

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EXAMINER

PALADINI, ALBERT WILLIAM

ART UNIT

PAPER NUMBER

2125

DATE MAILED: 11/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |  |                     |  |
|------------------------------|------------------------|--|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |  | <b>Applicant(s)</b> |  |
|                              | 10/099,969             |  | DURET ET AL.        |  |
|                              | <b>Examiner</b>        |  | <b>Art Unit</b>     |  |
|                              | Albert W. Paladini     |  | 2125                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/19/02</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01.

### **Claims 1 and 2**

Both claims recite an objective of "minimizing" "liquid slug formation or accumulation", and then recite the characteristics of the gas flow rate. The claims do not recite a sequential, logical series of steps to achieve the desired objective. The claims both recite the objective, and then recite the ultimate characteristic of the gas flow rate. The characteristic of the gas flow rate is also an objective, but the claims do not recite the steps or actions, which result in the minimization or in controlling the gas, flow rate.

Although the specification provides a dictionary for the claims, and the claims may be broader than the specification; each claim must be complete and self consistent in itself. For a structural claim, the recitation must describe clearly how all the elements are physically connected together. For a functional claim, the recitation must describe clearly how the elements are physically connected together, and in addition, the sequential logical operation of the element working cooperatively together must be understood. For a method claim, the recitation must describe a sequential operation

Art Unit: 2125

where each step further limits the previous step. In addition, even though the method claim is procedural, each step must be supported with sufficient physical means for accomplishing the step.

Appropriate correction and clarification are required.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 5-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Lines 13-18 on page 4 describe the gas injection means 1 connected to the "base of the riser 2". However, element 1 is connected to element 3, and not element 2.

Appropriate correction and clarification is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1- rejected under 35 U.S.C. 102(b) as being anticipated by Hill (6367566).

This rejection was made by addressing those elements of the claims, which were clearly recited in view of the 35 USC 112 rejections explained in paragraphs 1-4.

Hill discloses a system a method of control of down hole fluid pressures and specifically discusses the undesirability of slug formation (C15, L46-65), and injection rate control (C20, L1-17) to alleviate the undesirable conditions. Hill does specifically discuss injection when the flow rate variation being positive as recited in claims 1, 2, and 5. However, since Hill can control the injection, it is inherent that it can be controlled when the flow rate is positive or negative.

#### ***Relevant Prior Art***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Zink (4227872) discloses an apparatus for supplying gases to steam injection means on a flare stack which includes a control mechanism for the flow of air or steam to a steam riser pipe so that under freezing conditions, low pressure air flows through the steam riser pipe to the steam injection means when the gas flow rate is low. Zink discusses excess water accumulated in low areas of the steam line as slugs.

Lemetayer (6158508) discloses a method of producing hydrocarbons where a well producing in gas-injection-activated mode, using a pressurized-gas system, additionally includes an annular isolating seal at its lower end, gas-injection valves placed at optimized intervals along the production string and a gas-injection line in the annular space, this line being fitted with a choke for controlling the flow rate of injected gas.

Art Unit: 2125

Fujioka (6349536) discloses a water injection manifold which utilizes a control circuit, where a fuel flow control signal, a water flow detected signal and planned value signals on turbine cylinder pressure and injection water supply pressure are inputted so that valve openings are computed beforehand in proportion to the oil fuel flow rate and then the values so computed are corrected by a feedback signal from the detector. Thus, the valves are controlled so that the water injection rate may be controlled quickly corresponding to the oil fuel flow rate and so that NOx quantity generated by the combustion may be reduced.

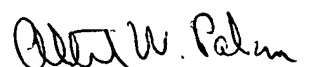
Maus (6668943) discloses a method and apparatus for controlling riser base pressure and detecting well control problems. Maus teaches a "gas-lifted drilling riser" in which an inert gas is compressed, transmitted down a separate conduit, and injected at various points along the lower end of the drilling riser. Bruce et al. also disclose a control system responsive to the hydrostatic head of the drilling fluid, which controls the rate of lift gas injection into the riser in order to maintain the hydrostatic pressure at the desired level.

8. Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (571) 272-3748. The examiner can normally be reached from 7:00 to 3:00 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (571) 272-3749. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

November 1, 2005



Albert W. Paladini  
Primary Examiner  
Art Unit 2125